

Children's Oral Health in Arizona

find-ings – A conclusion reached after examination or investigation.

Too many children start first grade with a chronic disease that is largely preventable – tooth decay.



The Arizona Department of Health Services, Office of Oral Health, Arizona School Dental Survey 1999-2003¹ shows that nearly half of kindergartners and six out of every ten first graders have had tooth decay. In fact, tooth decay (cavities) is the most common chronic disease among children – 5 times more common than asthma.²

Oral health is essential for school-readiness:

- Each year, dental disease results in nearly 52 million lost school hours. – *Gift HC 1997*
- Dental disease results in children's failure to thrive, impaired speech development, absence from and inability to concentrate in school and reduced self-esteem. – *Office of Disease Prevention and Health Promotion 2000*
- Dental disease results in children's decreased school performance, poor social relationships, and less success later in life. – *US General Accounting Office 2000*

The good news is that there are solutions for improving the oral health of Arizona's children and ensuring that they are, indeed, ready to succeed.

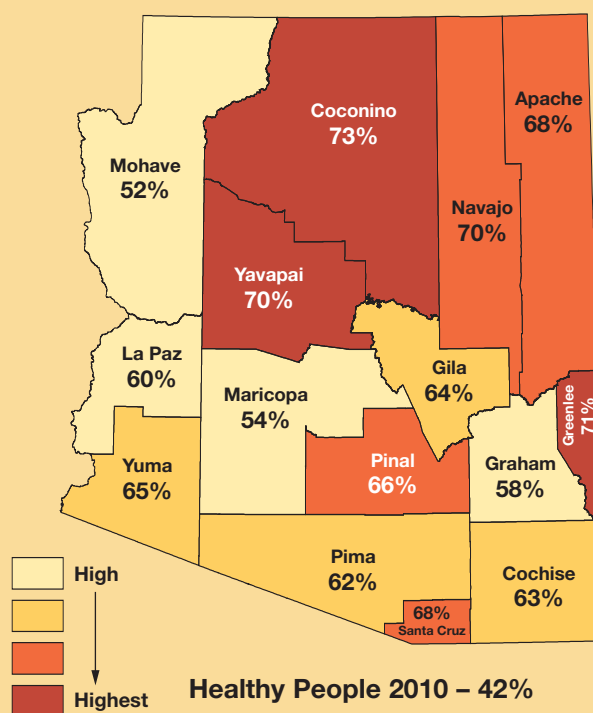
Distribution of tooth decay – children are affected in all Arizona counties

60% of children ages 6-8 have experienced tooth decay.

- 60% of children have at least one tooth with a filling and/or an untreated cavity. Decay experience varies by county across the state. The disease affects more children in all Arizona counties than the *Healthy People 2010*

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Percent of Children who have Experienced Decay



Source Data: ADHS OOH Arizona School Dental Survey, 1999-2003.

¹ Arizona Department of Health Services: Division of Public Health Services, Public Health Prevention Services, Office of Oral Health: Arizona School Dental Survey, 1999-2003.

² NCHS, NHANES III 1996

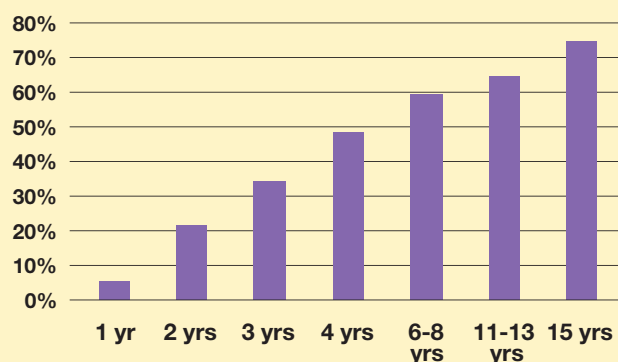
target of 42%. Therefore, efforts to reduce tooth decay need to be distributed among all counties. Arizona is one and a half times above the national *Healthy People 2010* objective.

Cost

It is estimated that Arizonans have spent more than \$44 million³ on restorative dental services for children in grades kindergarten through third and another \$30 million is required for treatment of current decay. All for a disease that is virtually preventable.

- Cost estimates do not include regular exams, fluoride treatments or cleanings necessary to prevent tooth decay and keep a child healthy.
- Cost estimates do not account for time away from school or work to seek dental treatment.
- A cavity only grows larger and more expensive to repair the longer it remains untreated.

Percent of Children who have Experienced Decay by Age⁴



Oral health is a chronic disease that impacts overall health. Because of the progressive nature of the disease, poor oral health in children can impact

their health into adulthood. Research continues to link oral health and the following health problems:

- Diabetes
- Cardiovascular diseases (stroke)
- Premature and/or low birth weight babies
- Failure to thrive

Like these other conditions, prevention of oral disease and tooth decay needs a comprehensive, integrated approach that addresses many factors including:

- **Environment** (*access to community water fluoridation, number of dental providers, transportation*)
- **Personal or social norms/behaviors** (*daily oral hygiene care, diet, oral health IQ, transmission of disease, values for good oral health*)
- **Political** (*funding, support for community water fluoridation, numerous important health issues, competing interest groups, scope of dental practice*)
- **Economic** (*availability/access to dental insurance, costs associated with delivering dental treatment*)

The improvement in oral health for children is not a task that can be accomplished by any single agency, be it the Federal government, State health agencies, or private organizations. Rather, actions must be developed through collaboration and partnerships involving both public and private groups focused on one common goal – preventing tooth decay in children to ensure a lifetime of optimal oral health.

³ Estimation based on use of 2003 ADA Survey of Dental Fees, single surface amalgam, mean for Mountain Region.

⁴ ADHS, OOH: Arizona Dental Survey of Preschool Children, 1994-1995; Arizona School Dental Survey, 1999-2003; Arizona Survey of School Age Children, 1987-1990.



This is the first in a series of briefs reporting on the oral health of Arizona's school children in kindergarten through third grade. For additional information or to learn how to improve the oral health of children go to:

Office of Oral Health
www.azdhs.gov/cfhs/ooh
602.542.1866

Funding provided by the Robert Wood Johnson Foundation's State Action for Oral Health Access grant.

The Severity of Tooth Decay in Arizona's Children

se·ver·i·ty – used of the degree of something undesirable e.g. pain
[syn: badness] 2: something hard to endure.

Although tooth decay is the most common chronic disease in children, it is largely preventable. The Arizona school Dental Survey 1999-2003¹ found that children in grades kindergarten through third are above the *Healthy People 2010* target of 42%. If we take a closer look at those with decay, we can learn about the health of these children so that we can one day eliminate their suffering including:

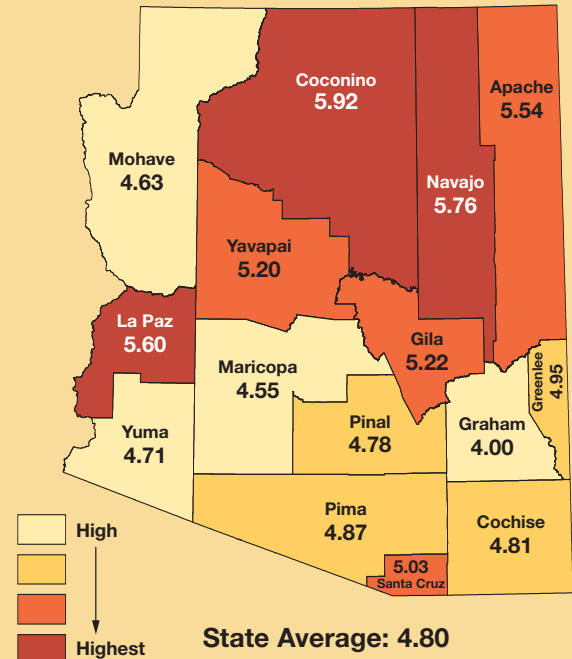
- How many of their teeth have decay?
- How many children still need treatment for tooth decay?
- How many children are in pain or have visible infection?

Arizona children on average have 5 teeth affected by tooth decay (cavities).

- This is three times higher than the national average of 1.4 teeth with decay or fillings.²
- This equates to about 1 out of every 4 teeth in a child's mouth.
- 34% of children have 1-2 teeth with decay or fillings,
23% of children have 3-4 teeth with decay or fillings,
43% of children have 5 or more teeth with decay or fillings.
- Some children are severely affected and have as many as 20 teeth with decay or fillings.

Some children have received treatment for tooth decay including fillings or crowns, root canals or extractions. Yet, more than one in three children (34%) still have untreated tooth decay (active decay).

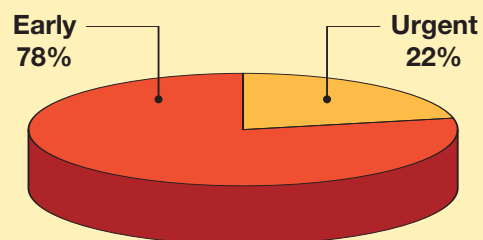
Teeth with Decay and/or Fillings Among Children Who Have Experienced Decay



Source Data: ADHS OOH Arizona School Dental Survey, 1999-2003.

Arizona children, kindergarten through third grade, have severe dental treatment needs.

- 22% of children with tooth decay have urgent treatment needs. This means they have decay with pain and/or infection needing dental treatment within 24 hours.
- 78% of children have early treatment needs and require dental care within the next several weeks.



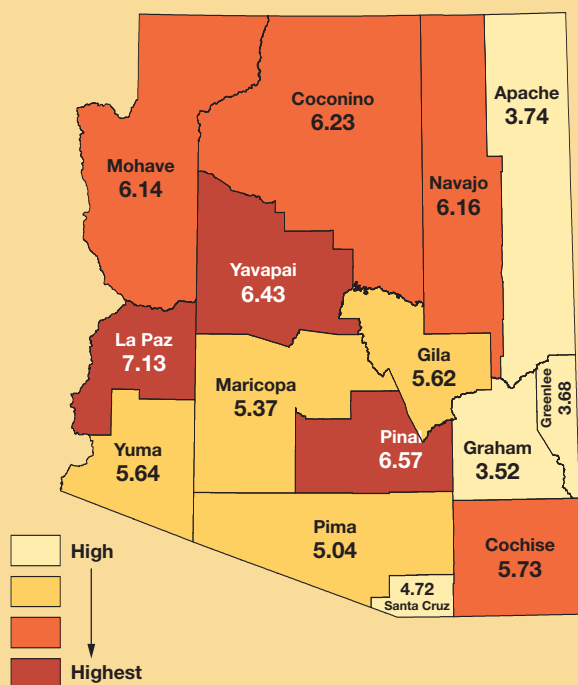
¹ Arizona Department of Health Services: Division of Public Health Services, Public Health Prevention Services, Office of Oral Health: Arizona School Dental Survey, 1999-2003.

² Beltran-Aguilar ED, Barker LK, Canto MT, Dye BA, Gooch BF, Griffin SO, Hyman J, Jaramillo F, Kingman A, Nowjack-Raymer R, Selwitz RH, Wu T; Centers for Disease Control and Prevention (CDC). Surveillance for dental caries, dental sealants, tooth retention, edentulism, and enamel fluorosis—United States, 1988-1994 and 1999-2002. *MMWR Surveill Summ.* 2005;54:1-43. Abstract PubMed.

On average, each child currently needs 6 fillings.

- Some children only need one filling, while other children need fillings on nearly all (20) their teeth.

Cavities Needing Fillings
Children Who Have Experienced Decay



Source Data: ADHS OOH Arizona School Dental Survey, 1999-2003.

Too many children already have tooth decay – a chronic disease that impacts overall health. Because of the progressive nature of the disease, poor oral health in children can impact their health into adulthood. Research continues to link oral health and the following health problems:

- Diabetes
- Cardiovascular diseases (stroke)
- Premature low birth weight babies
- Failure to thrive

Like these other conditions, prevention of oral disease

and tooth decay needs a comprehensive, integrated approach that addresses many factors including:

- **Environment** (access to community water fluoridation, number of dental providers, transportation)
- **Personal or social norms/behaviors** (daily oral hygiene care, diet, oral health IQ, transmission of disease, value of good oral health)
- **Political** (funding, support for community water fluoridation, competing interest groups, scope of dental practice)
- **Economic** (availability/access to dental insurance, costs associated with delivering dental treatment)

It is clear that the improvement in oral health for children is not a task that can be accomplished by any single agency, be it the Federal government, State health agencies, or private organizations. Rather, actions must be developed through collaboration and partnerships involving both public and private groups focused on one common goal – preventing tooth decay in children to ensure a lifetime of optimal oral health.



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Oral Health Disparities in Arizona's Children

dis-par-i-ty – 1. The condition or fact of being unequal.

In 2003, U.S. Surgeon General Richard Carmona issued a *National Call to Action to Promote Oral Health*. This report stated 'special efforts should be made to reduce the health disparities that affect members of certain racial and ethnic groups and people who are poor, geographically isolated or vulnerable because of special oral health care needs.'



The Arizona Department of Health Services, Office of Oral Health, Arizona School Dental Survey 1999-2003¹ found that oral health disparities exist among Arizona school children in grades kindergarten through third.

- What can we learn about these children who experience a disproportionate burden of the disease?
- How can we use this information to target populations and reduce disparities so that all children are ready to succeed?

Concentration of Decay

The burden of tooth decay is not evenly distributed across all segments of society.

- 23% of children experience 74% of the decay.

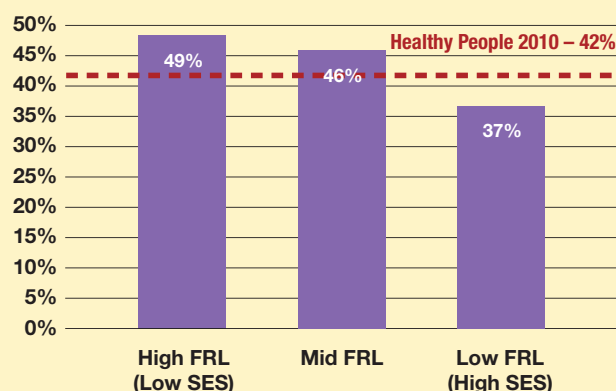
- 43% of children with decay have 5 or more decay and or filled teeth.

Certain indicators are used in determining an individual's risk of experiencing decay. The goal of public health (and society) is to define those indicators so we may target efforts toward underserved and higher risk populations.

Socio-Economic Status

One indicator for risk of tooth decay is socio-economic status (SES). Participation or eligibility to participate in the Arizona's free and reduced meal program is a reliable indicator of socioeconomic status of a school. Children in Arizona who attend schools with a high free and reduced lunch participation (FRL) have a higher prevalence of tooth decay. The prevalence rate is nearly one and a half times higher among lower SES children.

Percent of Arizona Children Who Have Experienced Decay by School Free & Reduced Lunch (FRL) Participation

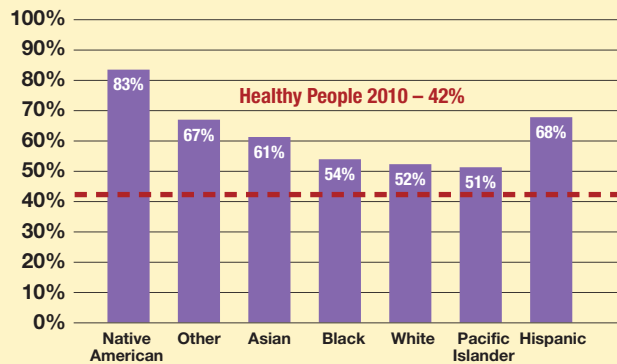


Race and Ethnicity

Another indicator of risk is race and ethnicity. Decay experience for all races is above the *Healthy People 2010* target of 42%. 83% of Native Americans and 68% of Hispanic ethnicity have experienced decay.

¹ Arizona Department of Health Services: Division of Public Health Services, Public Health Prevention Services, Office of Oral Health: Arizona School Dental Survey, 1999-2003.

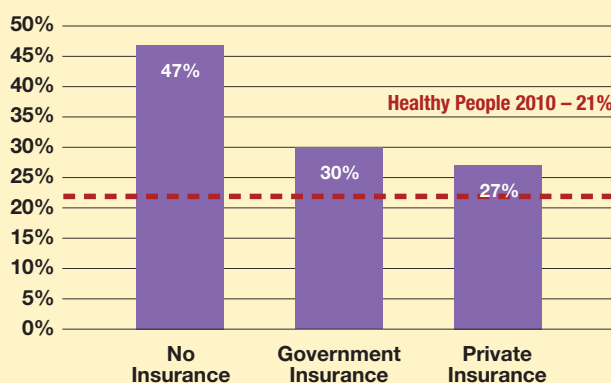
Percent of Arizona Children Who Have Decay Experience by Race and Ethnicity



Access to Care

Not all children have equal access to dental treatment. Nearly one out of every two children (47%) without dental insurance need dental treatment and nearly three out of ten children on government or private dental insurance need treatment. All children, either covered by private or government insurance and children without dental insurance exceed the *Healthy People 2010* objective of 21% for untreated decay.

Percent of Arizona Children Who Need Dental Treatment by Type of Dental Insurance



Many young children already have tooth decay. In addition, not all children are benefiting equally from improvements in oral health care. Tooth decay is a chronic disease that impacts overall health.

Because of the progressive nature of the disease, poor oral health in children can impact their health into adulthood. Research continues to link oral health and the following health problems:

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